

## CLAIMS

What is claimed is:

1. A method of controlling exhaust flow in an exhaust system for a non-conventional internal combustion power source exhibiting, during operation, larger ranges of acoustic frequency, flow rate or pressure in exhaust flow than found in conventional internal combustion power sources, the method comprising:

placing a passive temperature resistant valve in a path of exhaust gas flow, the valve operative to at least partially alter a characteristic of the exhaust gas flow for the larger ranges.

2. The method of claim 1 wherein the characteristic of the exhaust gas flow comprises at least one of flow restriction, flow reflection and flow direction.

3. The method of claim 1 wherein the passive, temperature resistant valve is placed nearer to a midpoint of the exhaust system than to an endpoint thereof.

4. The method of claim 1 wherein the passive, temperature resistant valve is placed substantially at a midpoint of the exhaust system.

5. The method of claim 1 wherein the passive, temperature resistant valve is placed between a midpoint of the exhaust system and the non-conventional power source.

6. A method of sound control in an exhaust system for an internal combustion power source exhibiting discontinuities in exhaust gas flow during operation, the method comprising:

placing a passive, temperature resistant valve in a path of exhaust gas flow, the valve operative to at least partially alter restriction of the exhaust gas flow whenever a discontinuity occurs.

7. The method of claim 6 wherein the passive, temperature resistant valve increases restriction of exhaust gas flow whenever a discontinuous decrease in exhaust gas flow rate occurs.

8. The method of claim 7 wherein the passive, temperature resistant valve restricts exhaust gas flow via a valve surface extending substantially perpendicular to a longitudinal axis of exhaust flow.

9. The method of claim 6 wherein the passive, temperature resistant valve is placed nearer to a midpoint of the exhaust system than to an endpoint thereof.

10. The method of claim 8 wherein the passive, temperature resistant valve is placed nearer to a midpoint of the exhaust system than to an endpoint thereof.

11. The method of claim 6 wherein the passive, temperature resistant valve is placed between a midpoint of the exhaust system and the internal combustion power source.

12. The method of claim 6 wherein the passive, temperature resistant valve is placed substantially at a midpoint of the exhaust system.

13. The method of claim 8 wherein the passive, temperature resistant valve is placed substantially at a midpoint of the exhaust system.

14. The method of claim 8 wherein the passive, temperature resistant valve is placed between a midpoint of the exhaust system and the internal combustion power source.

15. The method of claim 8 wherein the valve surface is positioned in a resonator having an inlet coupled to an interior conduit extending into the resonator and terminating in the resonator adjacent to the valve surface.

16. An arrangement for controlling exhaust flow in an exhaust system for a non-conventional internal combustion power source exhibiting, during operation, larger ranges of acoustic frequency, flow rate or pressure in exhaust flows than found in conventional internal combustion power sources the arrangement comprising:

a passive, temperature resistant valve positioned in a path of exhaust gas flow, the valve operative to at least partially alter a characteristic of the exhaust gas flow for the larger ranges.

17. The arrangement of claim 16 wherein the characteristic of the exhaust gas flow comprises at least one of flow restriction, flow reflection and flow direction.

18. The arrangement of claim 16 wherein the passive, temperature resistant valve is placed nearer to a midpoint of the exhaust system than to an endpoint thereof.

19. The arrangement of claim 16 wherein the passive, temperature resistant valve is placed substantially at a midpoint of the exhaust system.

20. The arrangement of claim 16 wherein the passive, temperature resistant valve is placed between a midpoint of the exhaust system and the internal combustion power source.

21. An arrangement for controlling sound in an exhaust system for an internal combustion power source exhibiting, during operation, discontinuity in exhaust gas flow, the arrangement comprising:

a passive, temperature resistant valve positioned in a path of the exhaust gas flow, the valve operative to at least partially alter restriction of the exhaust gas flow whenever a discontinuity occurs.

22. The arrangement of claim 21 wherein the passive, temperature resistant valve increases restriction of exhaust gas flow whenever a discontinuous predetermined decrease in exhaust gas flow rate occurs.

23. The arrangement of claim 22 wherein the passive, temperature resistant valve restricts exhaust gas flow via a valve surface extending substantially perpendicular to a longitudinal axis of exhaust flow.

24. The arrangement of claim 23 wherein the valve surface is positioned in a resonator having an inlet coupled to an interior conduit extending into the resonator and terminating in the resonator adjacent to the valve surface.